II. Remarks

A. Status of Claims

Claims 4, 5, 9, 10 and 12-18 are pending. Claims 9 and 12 are independent claims. No new matter is added.

B. Rejections Under 35 U.S.C. § 103

Claims 4, 9, 10 and 12-18 stand rejected under 35 U.S.C § 103(a) as being unpatentable over EP0786325 to Toncelli ("Toncelli") in view of US Pub. No. 2005/0022914 to Maier et al. ("Maier"), US Patent No. 2,388,824 to Brown ("Brown"), DE2309183 to Hedstrom ("Hedstrom"), and US Pub. No. 2003/0235939 to Takemura ("Takemura"). Applicant respectfully traverses this rejection based on the following arguments.

1. Maier, Hadstrom and Takemura are Non-Analogous Art

The mere identification each claimed element in separate references is insufficient to establish a prima facie case of obviousness and a rationale must be articulated for combining the separate references. (*See In re Kahn*, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006)). In considering the Graham factors, the obviousness analysis must consider whether the references are pertinent to the particular problem that the applicants faced. A "precise definition of the problem is important in determining whether a reference is from a nonanalogous art." (*See In re Dussaud*, 7 USPQ2d 1818, 1819 (BPAI 1988) ("defining the problem too broadly, as done here, may result in considering prior art as "analogous" which is inconsistent with real world considerations.")). "The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness." (*See In re Oetiker*, 24 USPQ2d 1443, 1446 (Fed. Cir. 1992) ("it is necessary to consider 'the reality of the circumstances'")). As stated in *In Re Wood*, the "rationale behind this rule precluding rejections based on combination of teachings of references from nonanalogous arts is the realization that an inventor could not possibly be aware of every teaching in every art. Thus, we attempt to more closely approximate the reality of the circumstances surrounding the making of an invention by only presuming knowledge by the

inventor of prior art in the field of his endeavor and in analogous arts." (*See In Re Wood*, 202 USPQ 171, 179 (CCPA 1979)).

Independent Claims 9 and 12 recite a method for manufacturing a sheet of agglomerate material, the method comprising the steps of "(d) using electromagnetic radiofrequency waves having a frequency of less than 300 MHz to dielectrically preheat the compacted sheet to a temperature less than the temperature where catalysis of the binder starts." The Office Action admits that Toncelli fails to teach "using electromagnetic radiofrequency waves having a frequency of less than 300 MHz to dielectrically preheat the compacted sheet to a temperature less than the temperature where catalysis of the binder starts." In an attempt to remedy the deficiency of Toncelli, the Office Action turns to Maier. The Office Action alleges that "in the same field of endeavor Maier teaches using 0.5 to 100 MHz radio waves to preheat rubber (paragraph 0020-0021), but is silent as to why a skilled artisan would preheat with radio waves." Applicant disagrees that Maier is in the same field of endeavor as Toncelli.

Maier is a newly cited document relating to a process for obtaining a rubber composition for a component of an article of manufacture (e.g. a tire). In particular the method comprises a step wherein a directed high frequency energy is applied to an unvulcanized, silica-rich diene-based rubber composition which contains at least one polymer and/or elastomer. The Office Action cites Maier for disclosing that the directed high frequency energy is applied to said rubber composition by at least one radio frequency radiation directed energy station by application of radio frequency in a range of from about 0.5 to about 100 MHz. Maier cannot be considered pertinent to the subject matter of the present invention, in view of the fact that it refers to a process for obtaining a rubber composition for a tire, and thus is not in the same field of endeavor. The Office Action does not provide any rationale why the skilled man would have looked to a process regarding a rubber composition as a teaching for the present invention. Thus, the Office Action is improperly combining separate disclosures from non-analogous sources with the benefit of hindsight to reject Claims 9 and 12. Therefore, the combination of Toncelli and Maier, and the combination of Toncelli, Maier, Brown, Hedstrom, and Takemura must be withdrawn as improper.

The Office Action also cites Hedstrom for "teaching preheating curable glue to a temperature below its curing temperature so as to remove trapped solvents in the glue." (See Office Action, page 4). Hedstrom refers to gluing process for wood panels in which the use of preheat is suggested for removing solvent from the gluing layer before the curing of the glue. Despite the obvious different teachings of Hedstrom the Office Action also alleges that Hedstrom is in "the same field of endeavor." The Office Action further uses Hedstrom to give "explicit motivation as to why a skilled artisan would want to preheat to a temperature less than the catalyst temperature." (*See* Office Action, page 7). Preheating of a glue as taught by Hedstrom, in a completely different and unrelated field, fails to teach preheat the compacted sheet to a temperature less than the temperature where catalysis of the binder starts as recited in Claims 9 and 12. The preheating disclosed in Hedstrom removes a solvent. The Office Action, to overcome the obvious difference of Hedstrom, fails to define the precise definition of the problem related to the present invention and thus improperly considers Hedstrom as in the same field of endeavor. Therefore, the combination of Toncelli and Hedstrom, and the combination of Toncelli, Maier, Brown, Hedstrom, and Takemura must be withdrawn as improper.

In addition, to the non-analogous references of Maier and Hadstrom, the Office Action also cites another non-analogous reference in Takemura. The Office Action admits that "Toncelli, Brown and Hedstrom do not teach the separate preheating oven and curing oven." (*See* Office Action, page 4). The Office Action turns to Takemura to allegedly teach this feature. Takemura relates to a method and apparatus for manufacturing a semiconductor apparatus wherein a semiconductor device is mounted on a long tape-like substrate. The semiconductor method and apparatus taught by Takemura is completely unrelated to the present invention. Again, the Office Action, to overcome the obvious difference of Takemura, fails to define the precise definition of the problem related to the present invention and thus improperly considers Takemura as in the same field of endeavor. Therefore, the combination of Toncelli and Takemura, and the combination of Toncelli, Maier, Brown, Hedstrom, and Takemura must be withdrawn as improper.

In summary, using one non-analogous reference in an obvious rejection is improper, and using three non-analogous references as was done the Office Action to selectively pick and choose various features is clearly improper. (*See In re Oetiker*, 24 USPQ2d 1443, 1446 (Fed. Cir. 1992)). Due to the stark differences of Maier, Hedstrom and Takemura, the Office Action can only rely on the grounds that these references are analogous because they are "reasonably pertinent to the particular problem which the inventor was involved." (*See In Re Wood*, 202 USPQ 171, 179 (CCPA 1979)). Maier, Hedstrom and Takemura are not faced with the problem of inventor, namely that the hardening step is consider greater than the vacuum vibro-compaction step. It is unreasonable to selectively pick and choose a high frequency energy range from the rubber process of Maier. Also, it is unreasonable to selectively pick and choose a step of preheating a glue of Hedstrom. Finally, it is unreasonable to selectively pick and choose a separate preheating oven and curing oven of Takemura. Maier, Hedstrom and Takemura are not in the same field of endeavor as Applicant and are not ***reasonably*** pertinent to the particular problem. Thus, Maier, Hedstrom and Takemura are non-analogous and the rejections under 35 U.S.C. § 103(a) must be withdrawn.

2. No Rationale to Combine Cited References

The Office Action uses the non-analogous teachings from Maier, Hedstrom and Takemura with the disclosure of Toncelli and Brown to further reject the claims. The Office Action alleges that Applicant's previous arguments took Brown out of context. The Office Action states that the "Brown reference is used solely for preheating, not compacting, since Toncelli explicitly teaches vacuum vibrocompacting." (*See* Office Action, page 7). To further clarify Applicant's position, Brown relates to the heat treatment of materials, and more particularly to the heat treatment, with the aid of electrical energy, of material which undergo a prescribed change when subjected to a predetermined temperature, such as the curing of thermosetting resin.

As mentioned in the previous responses, the problem faced by Brown is that the outer portion of a material, positioned in a heated press, becomes heated to a greater extent than the

inner portion thereof, causing the outer portion to reach the curing temperature before the inner portion. (*See* Brown, page 1, left column, lines 20-26). Thus Brown teaches to use the press plates as electrodes by means of which an electric field is applied to the material. When the material is either approaching or has already been brought to the curing temperature, a pressure is applied by the pressure plate. The pressure plates of Brown are heated by a different form of heating energy (e.g. steam).

In contrast to Brown, the present invention as claimed, significantly reduces the preheating time, making it consistent with the vibro-compaction time and ensuring perfectly uniform heating throughout the thickness and over the whole surface. In the present invention the two steps, namely the vibrocompression and the preheating, are separated from each other. This feature is not hint or suggested by Brown which teaches to use the press plates as electrodes by means of which heating and pressing are combined.

The Office Action also alleges that one would combine the references to "use preheating frequencies as taught by Maier, for the reason as taught by Brown using Toncelli process, since preheating allows for a more even cure." (*See* Office Action, page 4). Brown states that "high frequency energy as a heating source is desirable because it produces uniform heating, throughout the material." (*See* Brown, page 1, left column, lines 12-15). Regarding preheating, Brown identifies several problems because the plates must also be preheated otherwise there is a lost of heat. (*See* Brown, page 1, left column, line 38 to right column, line 4). Thus, Brown does not teach that "preheating allows for a more even cure" as alleged in the Office Action. Therefore, the alleged rationale for combining Toncelli, Maier and Brown is not based on the any teachings of the references and must rely on improper hindsight.

C. Dependent Claims

Dependent Claim 5 stands rejected under 35 U.S.C § 103(a) as being unpatentable over Toncelli in view of Maier, Brown, Hedstrom, Takemura, and in further view of WO03/089189 to Toncelli. Claims 4, 5, 10, and 13-18 depend from independent Claims 9 and 12, respectively. Accordingly, Claims 4, 5, 10, and 13-18 incorporate the features of independent Claims 9 and 12

and are patentable over the cited references for at least the same reasons as independent Claims 9 and 12.

D. Conclusion

In view of the foregoing, it is believed that this application is in condition for allowance, and a Notice thereof is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3536. All correspondence should be directed to the address given below.

Respectfully submitted,

/Keith DS Fredlake/
Attorney for Applicant
Keith Fredlake
Registration No. 58,006

Please continue to direct correspondence to:
Katten Muchin Rosenman LLP
575 Madison Avenue
New York, NY 10022-2585